This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Industrial permit. This discharge results from the operation of five (5) small scale water treatment plants with a combined discharge of 0.008 MGD. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1.	Facility Name and Mailing Address:	Lake Wilderness Public Water Systems Sections 1-11 & 12-16 2414 Granite Ridge Road Rockville, VA 23146	SIC Code:	4941 WTP
	Facility Location:	Mortar Lane, Jackson Ford Lane, Platoon Drive, Wilderness Park Drive and Thiel Court	County:	Spotsylvania
	Facility Contact Name:	Nicholas Wong / Engineer	Telephone Number:	804-749-8868
2.	Permit Number:	VA0081621	Expiration Date:	24 October 2009
	Other VPDES Permits:	Not Applicable		
	Other Permits:	PWSID 6177252 & 6177251 – Public Water Supply		
	E2/E3/E4 Status:	Not Applicable		
3.	Owner Name:	Aqua Virginia, Inc.		
	Owner Contact/Title:	Gregory Odell / President	Telephone Number:	804-749-8868
4.	Application Complete Date:	12 May 2009		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	2 November 2009
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	5 November 2009
	Public Comment Period:	Start Date: 22 January 2010	End Date:	22 February 2010
5.	Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination.		
	Receiving Stream Name:	Grant Lake, UT (Outfalls 001 & 004) North Wilderness Run, UT (Outfall 002) Wilderness Run, UT (Outfalls 003 & 005)		
	Drainage Area at Each Outfall:	Outfall 001 – 0.21 square miles Outfall 002 – 0.002 square miles Outfall 003 – 0.19 square miles Outfall 004 – 0.04 square miles Outfall 005 – 0.02 square miles	River Mile:	0.25
	Stream Basin:	Rappahannock River	Subbasin:	None
	Section:	4f	Stream Class:	III
	Special Standards:	None	Waterbody ID:	VAN-E18R
	7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
	1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
	Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD
	303(d) Listed:	No	30Q10 Flow:	0.0 MGD
	TMDL Approved:	No	Date TMDL Approved:	Not Applicable

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

✓	State Water Control Law		EPA Guidelines
✓	Clean Water Act	✓	Water Quality Standards
✓	VPDES Permit Regulation	✓	Other: 9 VAC 25-860-10 et seq.
✓	EPA NPDES Regulation		

7. Licensed Operator Requirements: Not Applicable

8. Reliability Class: Not Applicable

9. Permit Characterization:

✓	Private	✓	Effluent Limited		Possible Interstate Effect
	Federal	✓	Water Quality Limited		Compliance Schedule Required
	State		Toxics Monitoring Program Required		Interim Limits in Permit
	POTW		Pretreatment Program Required		Interim Limits in Other Document
	TMDL				

10. Wastewater Sources and Treatment Description:

This 0.008 MGD rated Water Treatment Plant consists of five (5) well stations; producing potable water for approximately 785 homes for the Lake Wilderness residential development. Each of the well stations is owned and operated by Aqua Virginia. Well water is pumped through pressurized greensand and ceramic media filters to remove iron, manganese and hydrogen sulfide via chemical adsorption and filtration. The following provides detailed descriptions of each well system and treatment:

Outfall 001 - Well Station # 4
This system consists of four (4) – 24" ceramic media tanks for pretreatment of iron and manganese followed by three (3) greensand filters. Chlorine and Sodium hydroxide (caustic) as well as potassium permanganate are used as oxidizers to raise water pH to limit leaching and improve filter performance. An additional well (4A) has been constructed and is pumped to the #4 pump station where nine (9) ceramic media tanks provide the only treatment for this water prior to mixing with water from well #4. Backwash from both treatment units flows via gravity to two (2) settling tanks (10,000 gallon capacity) prior to being discharged through Outfall 001 into an unnamed tributary to Grant Lake.

Outfall 002 - Well Station # 1
This system consists of one (1) – PF2000 unit with two (2) – 13" ceramic media tanks which replaced the original sand filter at this location. Chlorine and Sodium hydroxide (caustic) are used as oxidizers to raise water pH to limit leaching and improve filter performance. Since the amount of backwash from this well station is small and does not contain potassium permanganate, no settling tanks or treatment have been required. Backwash is then discharged through Outfall 002 into a roadside ditch prior to entering an unnamed tributary to North Wilderness Run.

Outfall 003 - Well Station # 7
This system consists of two (2) – PF2000 units with two (2) – 13" ceramic media tanks which replaced the original sand filter at this location. Since the amount of backwash from this well station is small and does not contain potassium permanganate, no settling tanks or treatment have been required. Backwash is then discharged through Outfall 003 into a roadside ditch prior to entering an unnamed tributary to North Wilderness Run.

Outfall 004 - Well Station # 5
This system consists of three (3) – 60" greensand filters for treatment of iron and manganese. Chlorine and Sodium hydroxide (caustic) as well as potassium permanganate are used as oxidizers to raise water pH to limit leaching and improve filter performance. Backwash from the treatment unit flows to two (2) settling tanks (10,000 gallon capacity) prior to being discharged through Outfall 004 into an unnamed tributary to Grant Lake.

Outfall 005 - Well Station # 8
This system consists of two (2) – 60" greensand filters for treatment of iron and manganese. Chlorine and Sodium hydroxide (caustic) as well as potassium permanganate are used as oxidizers to raise water pH to limit leaching and improve filter performance. Backwash from the treatment unit flows to one (1) settling tank (14,000 gallon capacity) prior to being discharged through Outfall 005 into an unnamed tributary to Wilderness Run.

The permittee has stated that surface discharges from Outfalls 002, 003 and 004 are scheduled to be eliminated via drain fields during this permit term. This type of activity is governed by the Underground Injection Control (UIC) program, which is administered by the Environmental Protection Agency (EPA) and therefore, will oversee the permitting of these subsequent, subsurface discharges.

See **Attachment 2** for the NPDES Permit Rating Worksheet.

See **Attachment 3** for the facility schematics/diagrams.

TABLE 1 OUTFALL DESCRIPTION				
Outfall Number	Discharge Sources	Treatment	Average Design Flow	Outfall Latitude / Longitude
001	Filter backwash	See Item 10 above.	0.003 MGD	38° 17' 51" N / 77° 43' 50" W
002	Filter backwash	See Item 10 above.	0.0005 MGD	38° 18' 38" N / 77° 44' 20" W
003	Filter backwash	See Item 10 above.	0.0008 MGD	38° 18' 48" N / 77° 42' 54" W
004	Filter backwash	See Item 10 above.	0.0021 MGD	38° 17' 57" N / 77° 43' 21" W
005	Filter backwash	See Item 10 above.	0.0014 MGD	38° 18' 20" N / 77° 42' 45" W
See **Attachment 4** for Chancellorsville topographic map.				

11. Sludge Treatment and Disposal Methods:

There is no domestic sludge produced at this industrial facility. The solids generated from the settling tanks are pumped and hauled to the Remington Wastewater Treatment Plant (VA0076805) for final treatment and disposal. This facility generates approximately 9,000 gallons per year.

12. Discharges, Intakes, Monitoring Stations, Other Items in the VAN-E18R waterbody:

TABLE 2 DISCHARGES, INTAKES & MONITORING STATIONS			
Permit/ID Number	Name	Description	Receiving Stream
VA0074381	Camp Happyland STP	domestic discharge	Hazel Run, UT
VA0083411	Wilderness WWTP	domestic discharge	Rapidan River
VA0091961	Locust Grove Town Center STP	domestic discharge	Flat Run, UT
VAR050794	TC Catlett & Sons Lumber Company	industrial stormwater	Little Hunting Run, UT
3-WIL004.00	DEQ water quality monitoring station	Not applicable	Wilderness Run
VAG406044	Lake Wilderness	single family home domestic discharges	Wilderness Run
VAG406428	Orange Associates LLC		Rapidan River, UT
VAG406430	Mine Run Market		Mine Run, UT

13. Material Storage:

TABLE 3 MATERIAL STORAGE	
Materials Description	Spill/Stormwater Prevention Measures
Chlorine	Stored in each respective pump house, under roof
Potassium permanganate	
Sodium hydroxide	

14. Site Inspection: Performed by DEQ-NRO Compliance Staff on 12 February 2007 (see **Attachment 5**).

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

There is no DEQ monitoring data for any of the aforementioned receiving streams. The nearest DEQ water quality monitoring station is Station 3-WIL004.00, located on Wilderness Run at the Route 3 bridge crossing; approximately 2.6, 1.5, 1.2, 2.8 and 2.0 miles downstream from Outfall 001, Outfall 002, Outfall 003, Outfall 004 and Outfall 005, respectively.

Downstream impairments have been noted due to bacteria excursions for *E. coli*. A bacteria TMDL for the Rapidan River was approved on 4 December 2007 and included all upstream point sources. However, since this facility does not discharge the pollutant of concern, no WLA was assigned under this TMDL.

b. Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260 (360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving streams: Grant Lake, UT; North Wilderness Run, UT; and Wilderness Run, UT are located within Section 4f of the Rappahannock River Basin and classified as Class III water.

At all times, Class III waters must achieve dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

Attachment 6 details other water quality criteria applicable to the receiving stream.

Ammonia:

A default temperature value of 25° C and a pH value of 8.0 S.U. were used to calculate the ammonia water quality standards. However, this pollutant of concern is not expected to be found in the discharge and it is staff's best professional judgement that no limit calculations are warranted.

Metals Criteria:

The 7Q10 of the receiving stream is zero and no ambient data is available, staff guidance suggests using a default hardness value of 50 mg/L $CaCO_3$ for streams east of the Blue Ridge. The hardness-dependent metals criteria were based on this default hardness value.

Bacteria Criteria:

The Virginia Water Quality Standards (9 VAC 25-260-170 B.) states sewage discharges shall be disinfected to achieve the following criteria:

E. coli bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean[1]	Single Sample Maximum
Freshwater *E. coli* (N/100 mL)	126	235

[1]For two or more samples taken during any calendar month

This facility does not discharge treated sewage; therefore, the bacteria criterion is not applicable.

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving streams: Grant Lake, UT; North Wilderness Run, UT; and Wilderness Run, UT are located within Section 4f of the Rappahannock River Basin. This section has not been designated with a special standard.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records on 7 October 2009 to determine if there are threatened or endangered species in the vicinity of the discharge. Threatened or endangered species were identified within a 2 mile radius of the discharges. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore protect the threatened and endangered species found near the discharge.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on an evaluation of the critical 7Q10 and 1Q10 stream flows. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case, since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from Discharge Monitoring Reports (DMRs) and the permit application has been reviewed and determined to be suitable for evaluation.

The following pollutants require a wasteload allocation analysis: Chlorine and Zinc (Outfall 001).

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream

The respective water segments receiving the discharges via Outfalls 001, 002, 003, 004 and 005 are considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Limitations, Outfalls 001, 002, 003, 004 and 005 – Toxic Pollutants

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N/TKN:

As stated earlier, Ammonia or Total Kjeldahl Nitrogen is not expected to be present in this discharge since this is an industrial facility producing potable water. Therefore, it is staff's best professional judgement that effluent limitations are not warranted.

2) Total Residual Chlorine:

Chlorine is used in the production of potable water and is potentially in the discharge. Therefore, staff calculated WLAs for TRC using current critical flows. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A limitation of 0.019 mg/L was established.

During the 2004 permit reissuance, a limitation of 0.005 mg/L was carried forward based on staff's best professional judgement and antibacksliding provisions. The aforementioned limitation was derived during the 1999 reissuance and was based on the premise that the receiving streams should be afforded Tier 2 protection. The designation was substantiated due to the lack of available water quality data and the Tier 2 determination for a proposed wastewater treatment plant located downstream. The receiving stream for this proposed discharge was the free flowing portion of Wilderness Run.

It was staff's best professional judgement in 2004 that this level of protection was applied in error and that the receiving streams, at the discharge points, are in fact Tier 1 waters since the critical flows have been determined to be 0.0 MGD. The proposed limitations should result in attaining and/or maintaining the water standards for the receiving streams with no significant degradation to the existing downstream water quality.

The general permit for water treatment plants, 9 VAC 25-860, has set a monthly average and daily maximum limits of 0.011 mg/L for TRC. Since these limitations are more stringent than the above calculated values and the previous limitations were based incorrectly, TRC limitations of 0.011 mg/L as a monthly average and daily maximum are proposed for this reissuance.

3) Metals:

Staff evaluated the metals data submitted by the permittee as part of the reissuance package. The only metal requiring an evaluation was Zinc at Outfall 001 since the other metals did not have Water Quality Criteria. Additional sampling, using clean techniques, was conducted by the permittee to ensure the results were representative of the effluent. Staff ascertained that no limit was warranted for Zinc at Outfall 001 (see **Attachment 7**).

d. Effluent Limitations and Monitoring, Outfalls 001, 002, 003, 004 and 005 – Conventional and Non-Conventional Pollutants

No changes to Total Suspended Solids (TSS) and pH limitations are proposed.

pH limitations are set at the water quality criteria.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for Total Suspended Solids, pH and Total Residual Chlorine.

The limitations for Total Suspended Solids and Total Residual Chlorine are based on 9 VAC 25-860-10 et seq.

Sample Type and Frequency are in accordance with 9 VAC 25-860-10 et seq.

18. Antibacksliding:

9 VAC 25-31-220.L. allows exceptions in which a reissued permit may contain less stringent effluent limitations upon determination that technical mistakes were previously applied to ascertain effluent limitations. In addition, the proposed limitations should not result in a violation of Water Quality Standards applicable to the receiving waters.

19a. Effluent Limitations/Monitoring Requirements: Outfalls 001 and 005

Total design flow for this Industrial Facility is 0.008 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	N/A	N/A	NL	1/M	Estimate
pH	3	N/A	N/A	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Suspended Solids (TSS)	2,4	30 mg/L	N/A	N/A	60 mg/L	1/M	Grab
Total Residual Chlorine	3,4	0.011 mg/L	N/A	N/A	0.011 mg/L	1/M	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9 VAC 25-190 (VPDES General Permit for Potable Water Treatment Plants)

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
1/M = Once every month.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

19b. Effluent Limitations/Monitoring Requirements: Outfalls 002, 003 and 004

Total design flow for this Industrial Facility is 0.008 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date or the issuance of an Underground Injection Control permit; whichever occurs first.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	N/A	N/A	NL	1/M	Estimate
pH	3	N/A	N/A	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Suspended Solids (TSS)	2,4	30 mg/L	N/A	N/A	60 mg/L	1/M	Grab
Total Residual Chlorine	3,4	0.011 mg/L	N/A	N/A	0.011 mg/L	1/M	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9 VAC 25-190 (VPDES General Permit for Potable Water Treatment Plants)

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
1/M = Once every month.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements:

Part I.B. of the permit contains quantification levels and compliance reporting instructions.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. On or before 24 May 2010, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b. Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(a) One hundred micrograms per liter;

(b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;

(c) Five times the maximum concentration value reported for that pollutant in the permit application; or

(d) The level established by the Board.

(2) That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(a) Five hundred micrograms per liter;

(b) One milligram per liter for antimony;

(c) Ten times the maximum concentration value reported for that pollutant in the permit application; or

(d) The level established by the Board.

c. Materials Handling/Storage. 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

d. Discharge/Outfall Termination. This special condition allows the permittee to request that the reporting requirements for Outfall 002, Outfall 003 and Outfall 004 cease once the respective surface discharges have been terminated. The facility shall submit copies of the UIC permits issued for each respective Outfall and the date at which the surfaced discharges were terminated. DEQ-NRO staff may verify that the surface discharges for each Outfall have been eliminated prior to granting the request.

e. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- Outfalls 002, 003 and 004 are schedule to cease discharging to surface waters during this permit term. A special condition was included recognizing this proposal and the ability of the facility to request that reporting requirements cease once the surface discharge has ceased and has been verified.

b. Monitoring and Effluent Limitations:

- The Total Residual Chlorine limitations have been relaxed based on the receiving streams' critical flow values and the subsequent level of protection required.

c. Other:

- The flow frequencies for the receiving streams were corrected based on the 1999 Flow Frequency Determination memo.
- The sample types for TSS were changed from 5G/8HC to GRAB given the design flows at the Outfalls.

24. Variances/Alternate Limits or Conditions: Not Applicable

25. Public Notice Information:

First Public Notice Date: 21 January 2010 Second Public Notice Date: 28 January 2010

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court, Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 8** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

There are downstream impairments for bacteria. Lake Wilderness WTP was not specifically included in the Rapidan River Bacteria TMDL but all upstream point source discharges were included. This facility did not receive a WLA for bacteria since it is not expected to discharge the pollutant of concern.

27. Additional Comments:

Previous Board Action(s):	Not Applicable.
Staff Comments:	The reissuance of this permit was delayed due to reassignment and discussions with permittee regarding the possible elimination of three out of the five (3/5) discharge points through Underground Injection Control (UIC) permits administered under the Environmental Protection Agency (EPA) and how it would be reflected within this reissuance. It was later determined that this activity would occur during this permit term and the inclusion of a special condition recognizing as such was requested by the permittee. Additional Zinc samples for Outfall 001 were also performed by the permittee as requested from staff.
Public Comment:	No comments were received during the public notice.
EPA Checklist:	The checklist can be found in **Attachment 9**.

Fact Sheet Attachments

Table of Contents

Lake Wilderness Water Treatment Plant
VA0081621
2010 Reissuance

Attachment 1

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Water Quality Assessments
629 East Main Street **P.O. Box 10009** **Richmond, Virginia 23219**

SUBJECT: Flow Frequency Determination
Lake Wilderness WTP – #VA0081621

TO: James C. Engbert, NRO

FROM: Paul E. Herman, P.E., WQAP

DATE: January 12, 1999

COPIES: Ron Gregory, Charles Martin, File

The Lake Wilderness WTP discharges via 4 outfalls to unnamed tributaries of the Grant Lake and of the North Wilderness Run near Chancellorsville, Virginia. Flow frequencies are required at this site for use by the permit writer in developing the VPDES permit.

The flow frequencies for the discharge receiving streams were determined by inspection of the USGS Chancellorsville Quadrangle topographic map. The map depicts the streams as dry ravines at the respective discharge points. The flow frequencies for dry ravines are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

If you have any questions concerning this analysis, please let me know.

NPDES PERMIT RATING WORK SHEET

[X] Regular Addition
[ ] Discretionary Addition
[ ] Score change, but no status Change
[ ] Deletion

VPDES NO. : VA0081621

Facility Name: Lake Wilderness Water Treatment Plant
City / County: Spotsylvania County
Receiving Water: Grant Lake, UT; North Wilderness Run, UT; Wilderness Run, UT
Waterbody ID:

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rater

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: Primary Sic Code: **4941** Other Sic Codes:

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	15	[X] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[ ]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[X]	53	30

Code Checked from Section A or B: 53

Total Points Factor 2: 30

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)	Code	Points
☐ < 100 lbs/day	1	0
☐ 100 to 1000 lbs/day	2	5
☐ > 1000 to 3000 lbs/day	3	15
☐ > 3000 lbs/day	4	20

Code Number Checked: N/A

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)	Code	Points
[X] < 100 lbs/day	1	0
☐ 100 to 1000 lbs/day	2	5
☐ > 1000 to 5000 lbs/day	3	15
☐ > 5000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one) *Nitrogen Equivalent*	Code	Points
☐ < 300 lbs/day	1	0
☐ 300 to 1000 lbs/day	2	5
☐ > 1000 to 3000 lbs/day	3	15
☐ > 3000 lbs/day	4	20

Code Number Checked: N/A

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☐ YES; (If yes, check toxicity potential number below)

[X] NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☐ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: N/A

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been to the discharge

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

		Code	Points
[X]	YES	1	0
[ ]	NO	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

Code Number Checked: A 2 B 1 C 2

Points Factor 5: A 0 + B 0 + C 0 = **0**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 53

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.60

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.60 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

		Code	Points
Yes	[ ]	1	10
No	[X]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)?

		Code	Points
Yes	[ ]	1	10
No	[X]	2	0

Code Number Checked: A 4 B 2 C 2

Points Factor 6: A 0 + B 0 + C 0 = **0**

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	35
2	Flows / Streamflow Volume	30
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	65

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 65

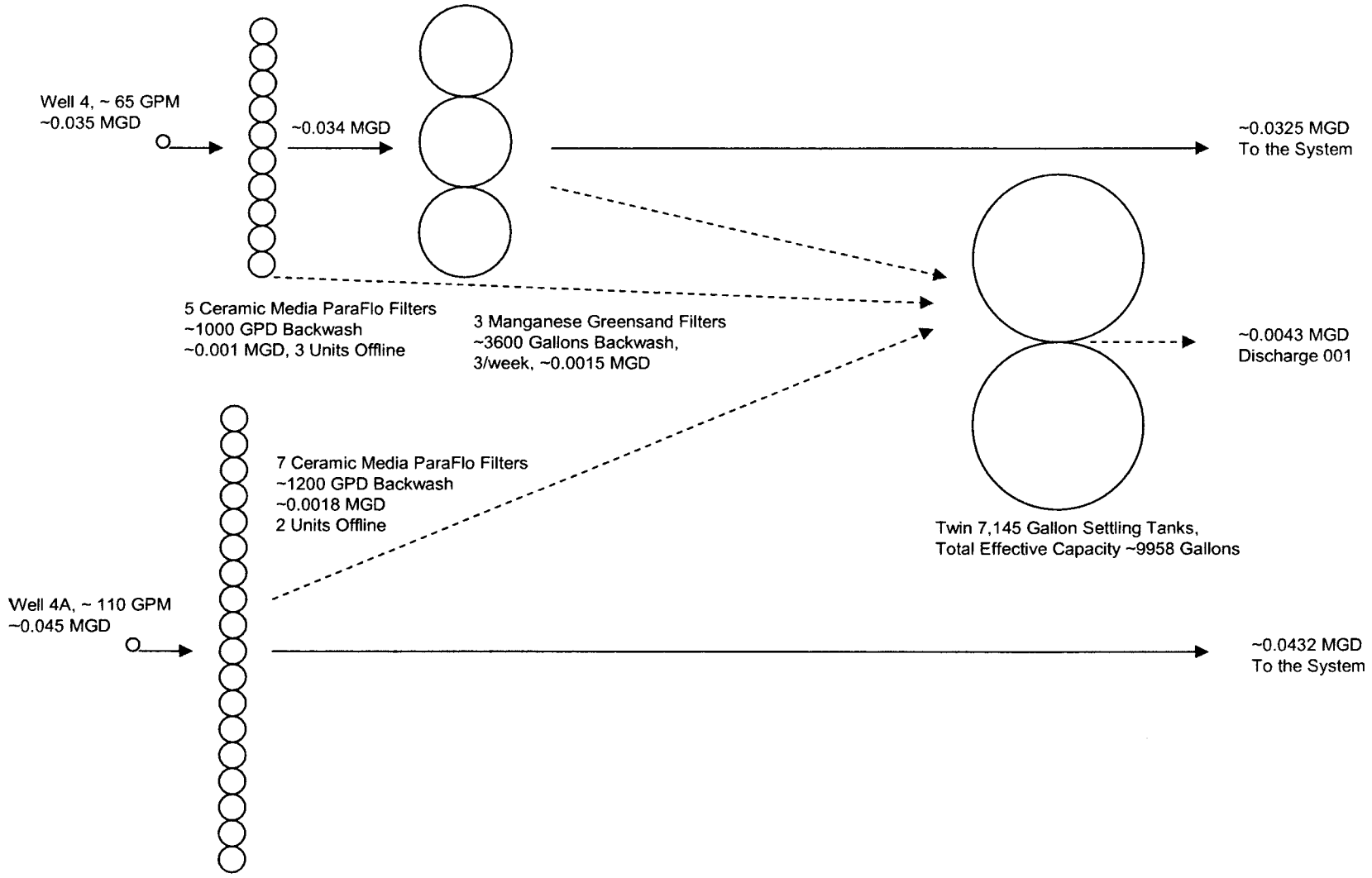
OLD SCORE : 65

Permit Reviewer's Name : Douglas Frasier

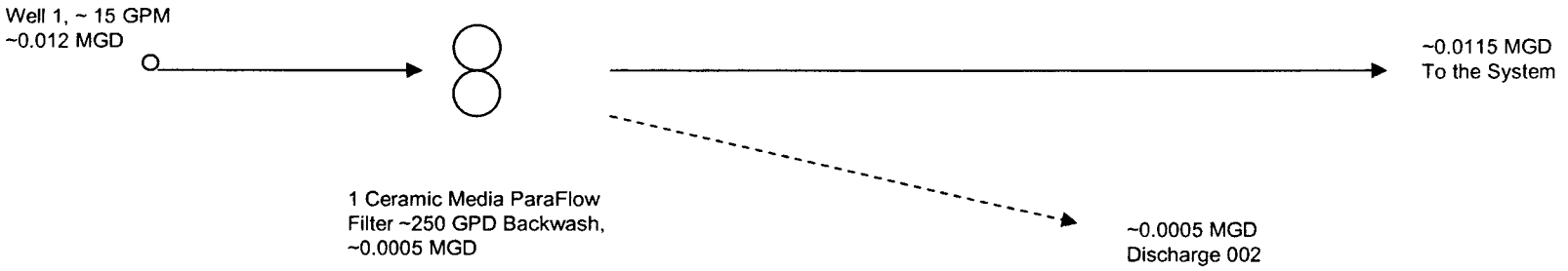
Phone Number: (703) 583-3873

Date: 3 November 2009

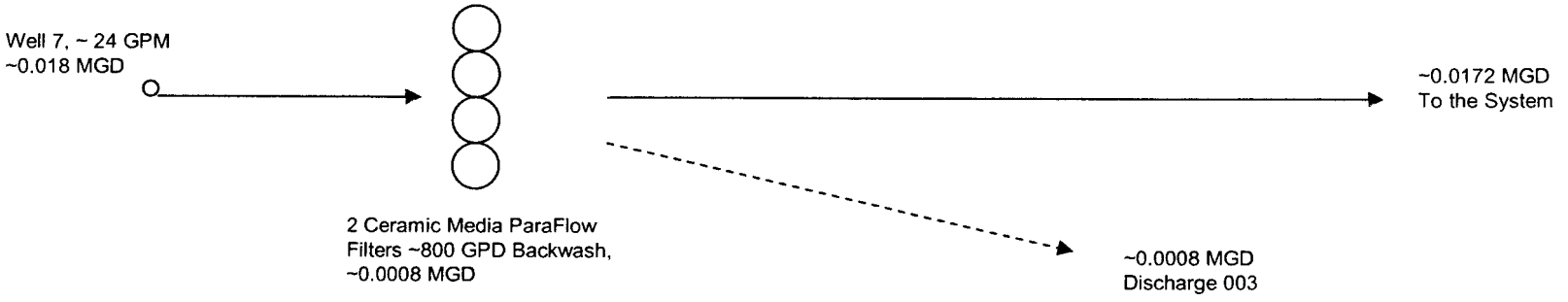
Lake Wilderness Sections 1-11, Pump Station No.4 & 4A, Discharge Point 001
Process Diagram and Water Balance Outfall, VPDES Permit No.VA00081621



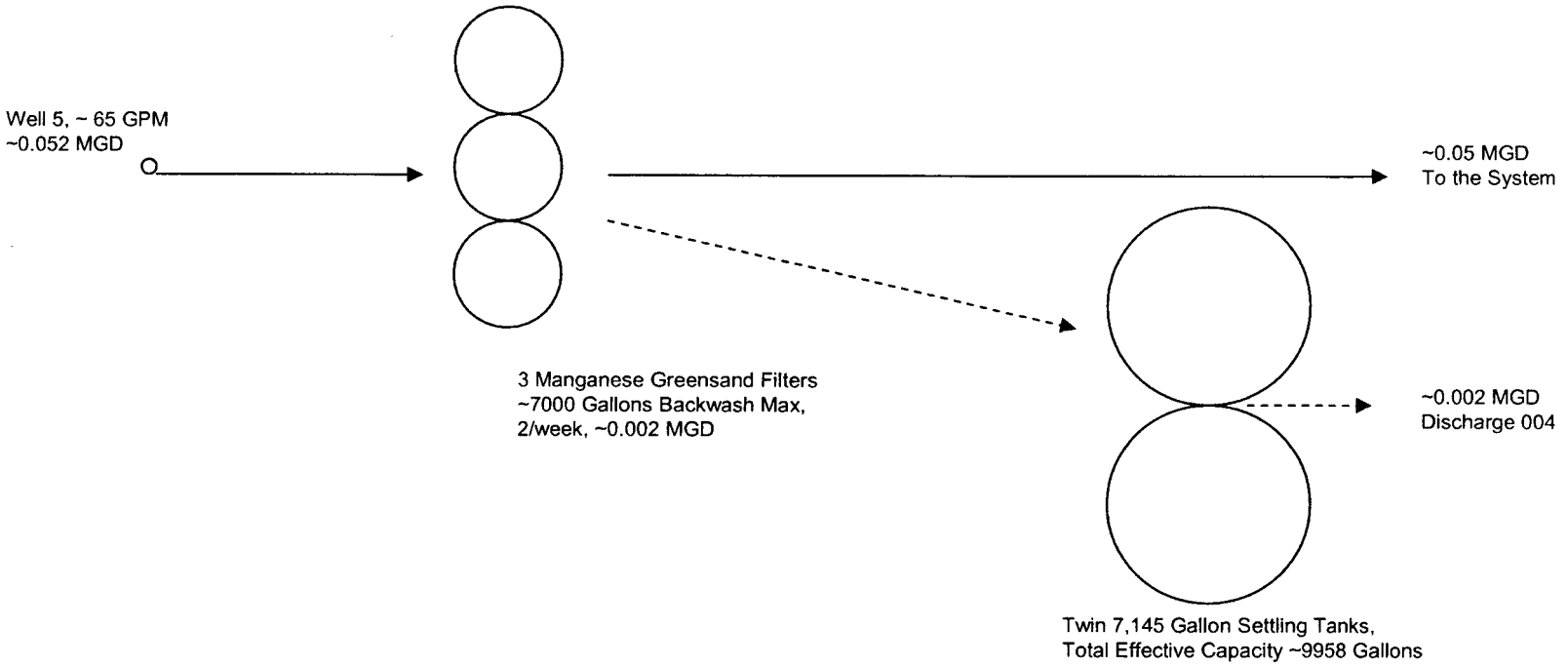
Lake Wilderness Sections 1-11, Pump Station No.1, Discharge Point 002
Process Diagram and Water Balance Outfall, VPDES Permit No.VA00081621



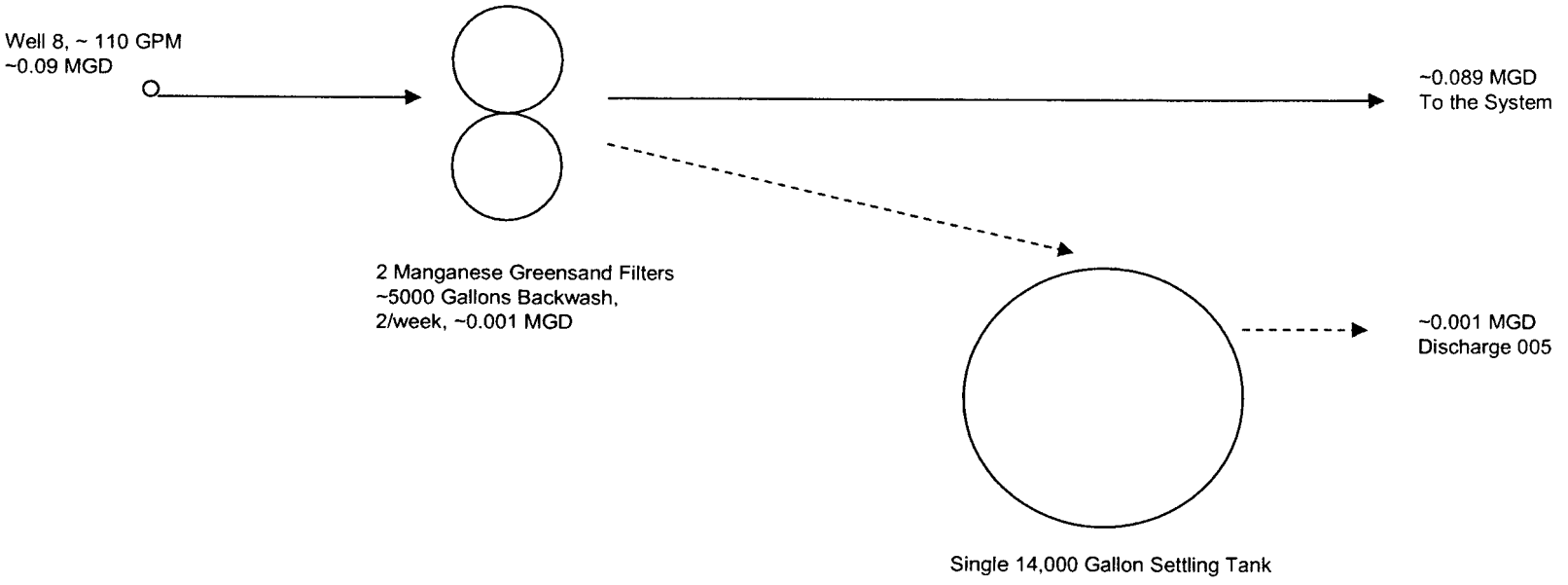
Lake Wilderness Sections 12-16, Pump Station No.7, Discharge Point 003
Process Diagram and Water Balance Outfall, VPDES Permit No.VA00081621

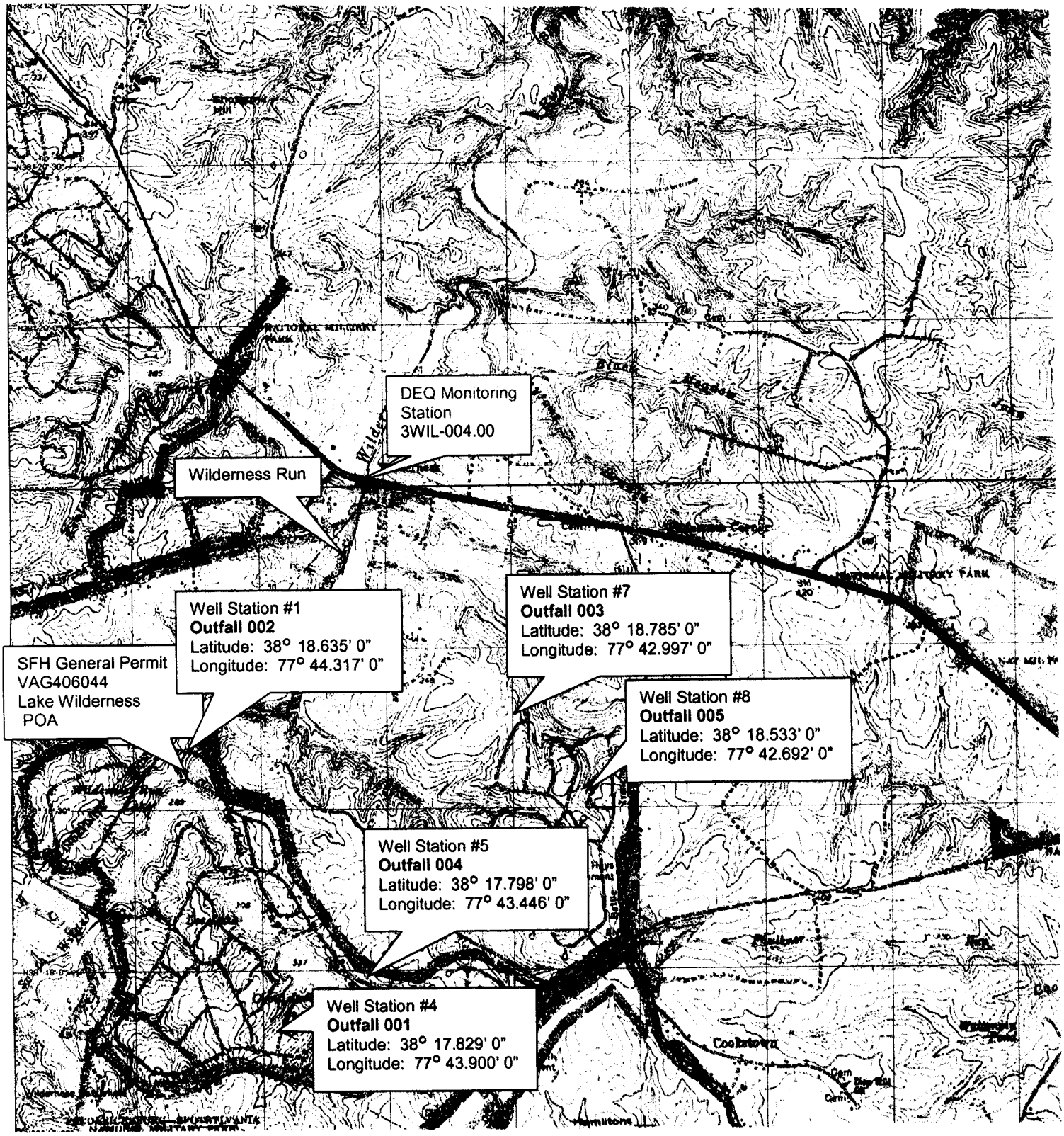


Lake Wilderness Sections 1-11, Pump Station No.5, Discharge Point 004
Process Diagram and Water Balance Outfall, VPDES Permit No.VA00081621



Lake Wilderness Sections 12-16, Pump Station No.8, Discharge Point 005
Process Diagram and Water Balance Outfall, VPDES Permit No.VA00081621




DEQ Monitoring Station 3WIL-004.00
Wilderness Run
Well Station #1
Outfall 002
Latitude: 38° 18.635' 0"
Longitude: 77° 44.317' 0"
SFH General Permit
VAG406044
Lake Wilderness POA
Well Station #7
Outfall 003
Latitude: 38° 18.785' 0"
Longitude: 77° 42.997' 0"
Well Station #8
Outfall 005
Latitude: 38° 18.533' 0"
Longitude: 77° 42.692' 0"
Well Station #5
Outfall 004
Latitude: 38° 17.798' 0"
Longitude: 77° 43.446' 0"
Well Station #4
Outfall 001
Latitude: 38° 17.829' 0"
Longitude: 77° 43.900' 0"

VPDES NO. **VA0081621**

Summary of conditions from last inspection
(January 27, 1999)

Problem identified		**Corrected**	**Not Corrected**
1.	Reddish sediment deposits below Outfall 001	[**X**]	[ ]
2.	Reddish sediment deposits in stream below Outfall 004	[**X**]	[ ]
3.	Standing water in deep pools below Outfall 004 was turbid	[**X**]	[ ]

Summary of conditions for current inspection

Comments:

- The well houses appear to be well run and maintained.
- Discolored leaves were noticed below several outfalls. Soils in the area were of similar coloring.
- The ground below Well #5 (Outfall 004) initially appeared to be discolored. The more likely cause was discharge volume and velocity overturning decomposing leaves.

Recommendations for action:

1. **Please check the discharge velocity so that is does not disturb soil and leaves below the outfalls.**
2. **Please check the discharge color to avoid staining of leaves and soil below the outfalls.**
3. **Please review the O&M Manual, revise to match current effluent testing, and submit necessary revisions.**

LABORATORY INSPECTION REPORT SUMMARY

FACILITY NAME: Lake Wilderness WTP	FACILITY NO: VA0081621	INSPECTION DATE: February 12, 2007
( ) Deficiencies	(X) No Deficiencies	

LABORATORY RECORDS

The Laboratory Records section had **No Deficiencies** noted during the inspection.

GENERAL SAMPLING AND ANALYSIS

The General Sampling and Analysis section had **No Deficiencies** noted during the inspection.

LABORATORY EQUIPMENT

The Laboratory Equipment section had **No Deficiencies** noted during the inspection.

INDIVIDUAL PARAMETERS

pH

The analysis for the parameter of pH had **Deficiencies** noted during the inspection.

1. **The temperature thermistor in the pH pen must be verified for accuracy once per year using a NIST certified thermometer. A record of the verification date, temperature correction, and verification temperature should be kept with the pH meter.**

In his March 5, 2007 email response to a DEQ data request, Mr. Ghorley stated the current pH pen/meter would be checked for the ability to verify the thermistor accuracy. If the pen can not be verified, it will be replaced. The yearly calibration will be performed at a wastewater plant operated by Aqua Virginia.

Total Residual Chlorine

The analysis for the parameter of Total Residual Chlorine (TRC) had **Deficiencies** noted during the inspection.

1. **The ability of the DPD pillow to properly adjust the pH must be checked for each well once per year. The buffer test can be done by measuring the pH of the sample prior to adding the DPD pillow and after adding the DPD pillow. If the pH after adding the pillow stays between 6–7 SU, then the buffering capacity is adequate.**

In his March 5, 2007 email response to a DEQ data request, Mr. Ghorley stated he was not aware of this requirement and would have his staff start performing this test.

COMMENTS

The facility staff should check the DEQ website at http://www.deq.state.va.us/vpdes/checklist.htmo and download the most recent inspection check sheets to keep up to date with changes in minimum laboratory requirements.

DEQ
WATER FACILITY INSPECTION REPORT
PREFACE

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0081621	**10/25/2004**		**10/24/2009**

Facility Name	Address	Telephone Number
Lake Wilderness WTP	**Wilderness Park Drive Spotsylvania VA**	**(804) 204-1611**
Owner Name	Address	Telephone Number
Aqua Virginia Inc.	**P. O. Box 6906 Richmond VA 23230**	**(804) 204-1611**
Responsible Official	Title	Telephone Number
Luther Ghorley	**Division Manager**	**(804) 204-1611**
Responsible Operator	Operator Cert. Class/number	Telephone Number
Ed Held	**1912002593**	**(804) 204-1611**

TYPE OF FACILITY:

DOMESTIC				**INDUSTRIAL**			
Federal		Major		Major		Primary	
Non-federal		Minor		Minor	**X**	Secondary	

INFLUENT CHARACTERISTICS:	DESIGN:
Flow	**NA**
Population Served	**Unknown**
Connections Served	**700**
BOD_5	**NA**
TSS	**NA**

EFFLUENT LIMITS: Units in mg/L unless otherwise specified.

Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
Flow (MGD)		**NL**	**NL**	**TSS**		**30**	**60**
pH (S.U.)	**6**		**9**	**Cl_2, Inst Res Max**		**0.005**	**0.005**

Receiving Stream	**See outfall pages**
Basin	**Rappahannock**
Discharge Point (LAT)	**See outfall pages**
Discharge Point (LONG)	**See outfall pages**

VPDES NO. **VA0081621**

REV 5/00

DEQ
WATER FACILITY
INSPECTION REPORT
PART 1

Inspection date: **February 12, 2007**

Date form completed: **March 8, 2007**

Inspection by: **Terry Nelson**

Inspection agency: **DEQ NVRO**

Time spent: **6 hours**

Announced: **Yes**

Reviewed by:

Scheduled: **Yes**

Present at inspection: **Wilamena Harback, DEQ; Ed Held, Aqua Virginia**

TYPE OF FACILITY:

Domestic
[ ] Federal [ ] Major
[ ] Nonfederal [ ] Minor

Industrial
[ ] Major [ ] Primary
[**X**] Minor [ ] Secondary

Type of inspection:

[**X**] Routine
[ ] Compliance/Assistance/Complaint
[ ] Reinspection

Date of last inspection: **January 27, 1999**
Agency: **DEQ NVRO**

Population served: **Unknown**

Connections served: approx. **700**

Last month average: (Influent): **No influent monitoring**

Last month average: (Effluent): **December 2006**

Outfall	Flow	pH:	TSS	Chlorine
	Gallons	S.U.	mg/L	mg/L
001	427	7.4	12.0	< QL
002	No discharge			
003	427	7.0	7.0	< QL
004	800	7.1	22.0	< QL
005	800	7.3	16.0	< QL

Quarter average: (Effluent) **October – December 2006**

Outfall	Flow	pH:	TSS	Chlorine
	Gallons	S.U.	mg/L	mg/L
001	427	7.4	13.3	< QL
002	No discharge			
003	427	7.06	4.33	< QL
004	800	7.16	10.33	< QL
005	800	7.33	8.33	< QL

DATA VERIFIED IN PREFACE [**X**] Updated [ ] No changes

Has there been any new construction? [ ] Yes [**X**] No

If yes, were plans and specifications approved? [ ] Yes [ ] No [**X**] NA

DEQ approval date:

(A) PLANT OPERATION AND MAINTENANCE

1. Class and number of licensed operators: **Mr. Held has a Class II Water and Class IV Wastewater**

2. Hours per day plant is manned: **Variable**

3. Describe adequacy of staffing. [ ] Good [**X**] Average [ ] Poor

4. Does the plant have an established program for training personnel? [**X**] Yes [ ] No

5. Describe the adequacy of the training program. [ ] Good [**X**] Average [ ] Poor

6. Are preventive maintenance tasks scheduled? [**X**] Yes [ ] No

7. Describe the adequacy of maintenance. [ ] Good [**X**] Average [ ] Poor*

8. Does the plant experience any organic/hydraulic overloading?
   If yes, identify cause and impact on plant: [ ] Yes [**X**] No

9. Any bypassing since last inspection? [ ] Yes [**X**] No

10. Is the standby electric generator operational? [ ] Yes [ ] No* [**X**] NA

11. Is the STP alarm system operational? [ ] Yes [ ] No* [**X**] NA

12. How often is the standby generator exercised? **N/A**
    Power Transfer Switch? **N/A**
    Alarm System? **N/A**

13. When was the cross connection control device last tested on the potable water service? **N/A**

14. Is sludge being disposed in accordance with the approved sludge disposal plan?
    [ ] Yes [ ] No [**X**] NA

15. Is septage received by the facility? [ ] Yes [**X**] No
    Is septage loading controlled? [ ] Yes [ ] No [**X**] NA
    Are records maintained? [ ] Yes [ ] No [**X**] NA

16. Overall appearance of facility: [ ] Good [**X**] Average [ ] Poor

Comments:
11 A Cimtec monitoring system, including autodialer, was installed in the past month.
14 Sludge is currently pumped from settling basins as needed and hauled to Remington WWTP.

(**B) PLANT RECORDS**

1. Which of the following records does the plant maintain?

Operational Logs for each unit process	[ ] Yes	[ ] No	[**X**] NA
Instrument maintenance and calibration	[**X**] Yes	[ ] No	[ ] NA
Mechanical equipment maintenance	[**X**] Yes	[ ] No	[ ] NA
Industrial waste contribution (Municipal Facilities)	[ ] Yes	[ ] No	[**X**] NA

2. What does the operational log contain? **Not applicable**

[ ] Visual observations	[ ] Flow measurement
[ ] Laboratory results	[ ] Process adjustments
[ ] Control calculations	[ ] Other (specify)

Comments:

3. What do the mechanical equipment records contain?

[ ] As built plans and specs	[ ] Spare parts inventory
[**X**] Manufacturers instructions	[ ] Equipment/parts suppliers
[**X**] Lubrication schedules	[ ] Other (specify)

Comments:

4. What do the industrial waste contribution records contain? (Municipal Only) **Not applicable**

[ ] Waste characteristics	[ ] Locations and discharge types
[ ] Impact on plant	[ ] Other (specify)

Comments:

5. Which of the following records are kept at the plant and available to personnel?

[**X**] Equipment maintenance records	[ ] Operational Log
[ ] Industrial contributor records	[ ] Instrumentation records
[**X**] Sampling and testing records	

6. Records not normally available to plant personnel and their location: **Aqua Virginia Offices**

7. Were the records reviewed during the inspection? [ ] Yes [**X**] No

8. Are the records adequate and the O & M Manual current? [ ] Yes [**X**] No

9. Are the records maintained for the required 3-year time period? [ ] Yes [ ] No [**X**] NA

Comments:

8) O&M was submitted with 2004 renewal and does not address chlorine testing or dechlor system.

9) Records are maintained at the main office in Richmond.

(**C) SAMPLING**

1. Do sampling locations appear to be capable of providing representative samples? [**X**] Yes [ ] No*
2. Do sample types correspond to those required by the VPDES permit? [**X**] Yes [ ] No*
3. Do sampling frequencies correspond to those required by the VPDES permit? [**X**] Yes [ ] No*
4. Are composite samples collected in proportion to flow? [**X**] Yes [ ] No* [ ] NA
5. Are composite samples refrigerated during collection? [ ] Yes [ ] No* [**X**] NA
6. Does plant maintain required records of sampling? [**X**] Yes [ ] No*
7. Does plant run operational control tests? [ ] Yes [**X**] No

Comments: **Discharge durations are too brief to require refrigeration during collection.**

(D) TESTING

1. Who performs the testing? [**X**] Plant [ ] Central Lab [**X**] Commercial Lab
   Name: **Froehling & Robertson does TSS testing**

If plant performs any testing, complete 2-4.

2. What method is used for chlorine analysis? **DPD**
3. Does plant appear to have sufficient equipment to perform required tests? [**X**] Yes [ ] No*
4. Does testing equipment appear to be clean and/or operable? [**X**] Yes [ ] No*

   Comments:

(E) FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1. Is the production process as described in the permit application? (If no, describe changes in comments)
   [ ] Yes [ ] No [**X**] NA
2. Do products and production rates correspond as provided in the permit application? (If no, list differences)
   [ ] Yes [ ] No [**X**] NA
3. Has the State been notified of the changes and their impact on plant effluent? Date:
   [ ] Yes [ ] No* [**X**] NA

Comments:

UNIT PROCESS: Effluent/Plant Outfall 001

1. Type Outfall [**X**] Shore based [ ] Submerged

2. Type if shore based: [ ] Wingwall [ ] Headwall [ ] Rip Rap [**X**] Pipe

3. Flapper valve: [ ] Yes [**X**] No [ ] NA

4. Erosion of bank: [ ] Yes [**X**] No [ ] NA

5. Effluent plume visible? [ ] Yes* [**X**] No

6. Condition of outfall and supporting structures: [**X**] Good [ ] Fair [ ] Poor*

7. Final effluent, evidence of following problems: **Not Discharging**
   a. oil sheen [ ] Yes* [ ] No
   b. grease [ ] Yes* [ ] No
   c. sludge bar [ ] Yes* [ ] No
   d. turbid effluent [ ] Yes* [ ] No
   e. visible foam [ ] Yes* [ ] No
   f. unusual color [ ] Yes* [ ] No

Comments:

- **Outfall 001 corresponds to Wells #4 and 4A and is located on Mortar Lane.**
- **The outfall is on an Unnamed Tributary to Grant Lake.**
- **Latitude/Longitude: 38° 17' 51"/077° 43' 50"**
- **Well water from well #4 is treated with Kinetico filtration tanks and polished using three greensand filters.**
- **Well water from well #4A is treated with Kinectico filtration tanks, which use a ceramic disk packing material.**
- **There are 13 Kinetico filtration tanks at this site, and 4 were in operation.**
- **The filter process includes feeding potassium permanganate, caustic, OP37, and chlorine.**
- **The OP37 is a phosphate based corrosion inhibitor.**
- **There is a 30,000 gallon storage tank at this well.**
- **The filters are backwashed two or three times per week.**
- **The green sand filters backwash using 100 gpm and lasting for 12 minutes.**
- **The Kinetico filters backwash using 6-8 gpm with a 20 minute backwash and 5 minute purge.**
- **Backwash water enters 2 circular underground sedimentation basins that fill simultaneously.**
- **A timer discharges the settled backwash water 24 hours later.**
- **The operator visually checks the sedimentation basins quarterly and measures the sludge depth at least twice per year.**
- **If needed, settled solids are pumped from the tank and hauled to Remington WWTP.**
- **Leaves below the outfall were discolored, but matched the exposed soil along the driveway.**

UNIT PROCESS: Effluent/Plant Outfall 002

1. Type Outfall [**X**] Shore based [ ] Submerged

2. Type if shore based: [ ] Wingwall [ ] Headwall [ ] Rip Rap [**X**] Pipe

3. Flapper valve: [ ] Yes [**X**] No [ ] NA

4. Erosion of bank: [ ] Yes [**X**] No [ ] NA

5. Effluent plume visible? [ ] Yes* [**X**] No

6. Condition of outfall and supporting structures: [**X**] Good [ ] Fair [ ] Poor*

7. Final effluent, evidence of following problems: **Not Discharging**
   a. oil sheen [ ] Yes* [ ] No
   b. grease [ ] Yes* [ ] No
   c. sludge bar [ ] Yes* [ ] No
   d. turbid effluent [ ] Yes* [ ] No
   e. visible foam [ ] Yes* [ ] No
   f. unusual color [ ] Yes* [ ] No

Comments:

- **Outfall 002 corresponds to Well #1 and is located on Jackson Ford Road.**
- **The outfall is on an Unnamed Tributary to North Wilderness Run.**
- **Latitude/Longitude: 38° 18' 38"/077° 44' 20"**
- **Well water is treated with Kinetico filter.**
- **The filter process includes feeding caustic, OP37, and chlorine.**
- **The filters are backwashed every 2,000 gallons using 6-8 gpm for 20 minutes and a 5 minute purge.**
- **Backwash water discharges directly into a UT to North Wilderness Run.**
- **The surface of leaves below the outfall had a reddish color that was similar to exposed soil.**

UNIT PROCESS: Effluent/Plant Outfall 003

1. Type Outfall [**X**] Shore based [ ] Submerged

2. Type if shore based: [ ] Wingwall [ ] Headwall [ ] Rip Rap [**X**] Pipe

3. Flapper valve: [ ] Yes [**X**] No [ ] NA

4. Erosion of bank: [ ] Yes [**X**] No [ ] NA

5. Effluent plume visible? [ ] Yes* [**X**] No

6. Condition of outfall and supporting structures: [**X**] Good [ ] Fair [ ] Poor*

7. Final effluent, evidence of following problems: **Not discharging**
   a. oil sheen [ ] Yes* [ ] No
   b. grease [ ] Yes* [ ] No
   c. sludge bar [ ] Yes* [ ] No
   d. turbid effluent [ ] Yes* [ ] No
   e. visible foam [ ] Yes* [ ] No
   f. unusual color [ ] Yes* [ ] No

Comments:

- **Outfall 003 corresponds to Well #7 and is located on Platoon Drive.**
- **The outfall is on an Unnamed Tributary to North Wilderness Run.**
- **Latitude/Longitude: 38° 18' 48"/077° 42' 58"**
- **Well water is treated with two Kinetico filtration tanks. Treatment requires only one tank be active.**
- **The filter process includes feeding caustic, OP37, and chlorine.**
- **The filters are backwashed every 2,000 gallons using 6-8 gpm for 20 minutes and a 5 minute purge.**
- **Backwash water discharges directly into a UT to North Wilderness Run.**

UNIT PROCESS: Effluent/Plant Outfall 004

1. Type Outfall [**X**] Shore based [ ] Submerged

2. Type if shore based: [ ] Wingwall [ ] Headwall [ ] Rip Rap [**X**] Pipe

3. Flapper valve: [ ] Yes [**X**] No [ ] NA

4. Erosion of bank: [ ] Yes [**X**] No [ ] NA

5. Effluent plume visible? [ ] Yes* [**X**] No

6. Condition of outfall and supporting structures: [**X**] Good [ ] Fair [ ] Poor*

7. Final effluent, evidence of following problems: **Not discharging**
   a. oil sheen [ ] Yes* [ ] No
   b. grease [ ] Yes* [ ] No
   c. sludge bar [ ] Yes* [ ] No
   d. turbid effluent [ ] Yes* [ ] No
   e. visible foam [ ] Yes* [ ] No
   f. unusual color [ ] Yes* [ ] No

Comments:

- **Outfall 004 corresponds to Well #5 and is located across from 11508 Wilderness Park Drive.**
- **The outfall is on an Unnamed Tributary to Grant Lake.**
- **Latitude/Longitude: 38^{o} 17' 57"/077^{o} 43' 21"**
- **Well water is treated with three greensand filters and Kinetico filtration tanks.**
- **The filter process includes feeding potassium permanganate, caustic, OP37, and chlorine.**
- **There is a 20,000 gallon storage tank at this well.**
- **The greensand filters are backwashed twice per week using 200 gpm.**
- **Backwash water enters 2 circular 6,000 gallon underground sedimentation basins that fill simultaneously.**
- **A float on the pump discharges the settled backwash about a week later.**
- **The discharge enters a dry ditch that flows into a UT to Grant Lake.**
- **Solids levels in the basins are measured at least twice per year and visually checked quarterly.**
- **If needed, settled solids are pumped from the tank and hauled to Remington WWTP.**
- **The ground below the outfall appeared discolored. Further review shows the surface leaves were overturned by the discharge. The effluent flow rate may need to be adjusted.**

UNIT PROCESS: Effluent/Plant Outfall 005

1. Type Outfall [**X**] Shore based [ ] Submerged

2. Type if shore based: [ ] Wingwall [ ] Headwall [ ] Rip Rap [**X**] Pipe

3. Flapper valve: [ ] Yes [**X**] No [ ] NA

4. Erosion of bank: [ ] Yes [**X**] No [ ] NA

5. Effluent plume visible? [ ] Yes* [**X**] No

6. Condition of outfall and supporting structures: [**X**] Good [ ] Fair [ ] Poor*

7. Final effluent, evidence of following problems: **Not discharging**
   a. oil sheen [ ] Yes* [ ] No
   b. grease [ ] Yes* [ ] No
   c. sludge bar [ ] Yes* [ ] No
   d. turbid effluent [ ] Yes* [ ] No
   e. visible foam [ ] Yes* [ ] No
   f. unusual color [ ] Yes* [ ] No

Comments:

- **Outfall 005 corresponds to Well #8 and is located on Thiel Court.**
- **The outfall is on an Unnamed Tributary to Wilderness Run.**
- **Latitude/Longitude: 38^{o} 18' 32"/077^{o} 42' 42"**
- **Well water is treated with two greensand filters.**
- **The filter process includes feeding potassium permanganate, caustic, and chlorine.**
- **There is an 80,000 gallon storage tank at this well.**
- **The filters are backwashed twice per week using 200 gpm.**
- **Backwash water enters a circular 14,000 gallon underground sedimentation basin.**
- **The discharge enters a UT to Wilderness Run.**
- **The outfall pipe sticks out of the bank with a 6-8" drop to the ground.**
- **Solids depth levels are checked in the basins twice per year.**
- **If needed, settled solids are pumped from the tank and hauled to Remington WWTP.**

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Lake Wilderness WTP Permit No.: VA0081621

Receiving Stream: WildernessRun/Grant Lake, Uts Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temperature (Annual) =	25	deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =	8	SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows		
1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	1.85	MGD
30Q10 (Wet season) =		MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD

Mixing Information		
Annual - 1Q10 Mix =	100	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =		deg C
90% Maximum pH =	8	SU
10% Maximum pH =		SU
Discharge Flow =	0.008	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	5	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.9E+02**
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.3E+00**
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.5E+00**
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	**3.0E+00**	**--**	**na**	**5.0E-04**
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.24E+00	na	--	8.4E+00	1.2E+00	na	--	--	--	--	--	--	--	--	--	**8.4E+00**	**1.2E+00**	**na**	**--**
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.43E+00	na	--	2.0E+03	2.4E+00	na	--	--	--	--	--	--	--	--	--	**2.0E+03**	**2.4E+00**	**na**	**--**
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+04**
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.4E+02**
Arsenic	o	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	**3.4E+02**	**1.5E+02**	**na**	**--**
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.1E+02**
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.0E-03**
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.3E+00**
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.5E+04**
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.2E+01**
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.4E+03**
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.9E+03**
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	**1.8E+00**	**6.6E-01**	**na**	**--**
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+01**
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	**2.4E+00**	**4.3E-03**	**na**	**8.1E-03**
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	**8.6E+05**	**2.3E+05**	**na**	**--**
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	**1.9E+01**	**1.1E+01**	**na**	**--**
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.3E+02**
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.1E+04**
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+03**
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.5E+02**
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	**8.3E-02**	**4.1E-02**	**na**	**--**
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	**3.2E+02**	**4.2E+01**	**na**	**--**
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	**1.6E+01**	**1.1E+01**	**na**	**--**
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-02**
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	**7.0E+00**	**5.0E+00**	**na**	**--**
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	**2.2E+01**	**5.2E+00**	**na**	**1.6E+04**
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.1E-03**
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.2E-03**
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	**1.1E+00**	**1.0E-03**	**na**	**2.2E-03**
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	**--**	**1.0E-01**	**na**	**--**
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	**1.7E-01**	**1.7E-01**	**na**	**--**
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.3E+03**
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.6E+02**
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.9E+02**
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.8E-01**
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.7E+02**
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.7E+02**
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.1E+03**
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.0E+04**
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.9E+02**
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.5E+02**
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.1E+02**
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	**2.4E-01**	**5.6E-02**	**na**	**5.4E-04**
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.4E+04**
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.5E+02**
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.1E+06**
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.5E+03**
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.3E+03**
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.8E+02**
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.4E+01**
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.1E-08**
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.0E+00**
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	**2.2E-01**	**5.6E-02**	**na**	**8.9E+01**
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	**2.2E-01**	**5.6E-02**	**na**	**8.9E+01**
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	**2.2E-01**	**5.6E-02**	**--**	**--**
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.9E+01**
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	**8.6E-02**	**3.6E-02**	**na**	**6.0E-02**
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E-01**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.1E+03**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.4E+02**
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.3E+03**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	**--**	**1.0E-02**	**na**	**--**
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	**na**	**7.9E-04**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	**na**	**3.9E-04**
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.9E-03**
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E+02**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.9E-02**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.7E-01**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	**9.5E-01**	**--**	**na**	**1.8E+00**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.1E+03**
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	**--**	**2.0E+00**	**na**	**--**
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E-01**
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**9.6E+03**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	**--**	**0.0E+00**	**na**	**--**
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	**4.9E+01**	**5.6E+00**	**na**	**--**
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	**--**	**1.0E-01**	**na**	**--**
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Mercury	0	1.4E+00	7.7E-01	- -	- -	1.4E+00	7.7E-01	- -	- -	--	--	--	--	--	--	--	--	**1.4E+00**	**7.7E-01**	**- -**	**- -**
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.5E+03**
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.9E+03**
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	**--**	**3.0E-02**	**na**	**--**
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	**--**	**0.0E+00**	**na**	**--**
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	**1.0E+02**	**1.1E+01**	**na**	**4.6E+03**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.9E+02**
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+01**
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+01**
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.1E+00**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	**2.8E+01**	**6.6E+00**	**na**	**--**
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	**6.5E-02**	**1.3E-02**	**na**	**--**
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	**--**	**1.4E-02**	**na**	**6.4E-04**
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	**7.7E-03**	**5.9E-03**	**na**	**3.0E+01**
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.6E+05**
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+03**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+00**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	**1.0E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**6.5E+01**	**6.6E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information. Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

9/14/2009 2:56:41 PM

Facility = Lake Wilderness WTP
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 0.019
WLAc =
Q.L. = 0.1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average= 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 0.019
Average Weekly limit = 0.019
Average Monthly LImit = 0.019

The data are:

20

12/23/2009 9:23:21 AM

Facility = Lake Wilderness WTP
Chemical = Zinc
Chronic averaging period = 4
WLAa = 65
WLAc = 66
Q.L. = 26
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 3
Expected Value = 24.1214
Variance = 209.464
C.V. = 0.6
97th percentile daily values = 58.6976
97th percentile 4 day average = 40.1330
97th percentile 30 day average= 29.0917
< Q.L. = 2
Model used = BPJ Assumptions, Type 1 data

No Limit is required for this material

The data are:

90
0
0

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated industrial wastewater into a water body in Spotsylvania County, Virginia.

PUBLIC COMMENT PERIOD: January 22, 2010 to 5:00 p.m. on February 22, 2010

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Industrial wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Aqua Virginia, Incorporated
2414 Granite Ridge Road, Rockville, VA 23146
VA0081621

NAME AND ADDRESS OF FACILITY: Lake Wilderness Water Treatment Plant
2414 Granite Ridge Road, Rockville, VA 23146

PROJECT DESCRIPTION: Aqua Virginia, Incorporated has applied for a reissuance of a permit for the private Lake Wilderness Water Treatment Plant. The applicant proposes to release treated industrial wastewaters at a maximum rate of 0.008 million gallons per day into a water body. The industrial sludge from the treatment process will be pumped and hauled to the Remington Wastewater Treatment Plant (VA0076805) for further treatment and final disposal. The facility proposes to release the treated industrial wastewaters in the Grant Lake, UT; North Wilderness Run, UT; and Wilderness Run, UT, in Spotsylvania County in the Rappahannock River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, TSS and Chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 E-mail: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Lake Wilderness Water Treatment Plant
NPDES Permit Number:	VA0081621
Permit Writer Name:	Douglas Frasier
Date:	3 November 2009

Major [ ] **Minor** [X] **Industrial** [X] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?			X
a. Has a TMDL been developed and approved by EPA for the impaired water?			X
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			X
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	X		
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for <u>all</u> non-POTWs)

II.A. Permit Cover Page/Administration	**Yes**	**No**	**N/A**
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	**Yes**	**No**	**N/A**
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	**Yes**	**No**	**N/A**
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			X
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	X		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits	**Yes**	**No**	**N/A**
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

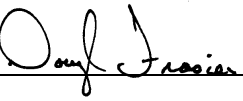
II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?	X		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		X	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			X
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41 Duty to comply Duty to reapply Need to halt or reduce activity not a defense Duty to mitigate Proper O & M Permit actions Property rights Duty to provide information Inspections and entry Monitoring and records Signatory requirement Bypass Upset Reporting Requirements Planned change Anticipated noncompliance Transfers Monitoring reports Compliance schedules 24-Hour reporting Other non-compliance			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Douglas Frasier
Title	Environmental Specialist II Senior
Signature	
Date	3 November 2009